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Case Report

New Topical Treatment for Psoriasis: A Case Report

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Abstract

Topical corticosteroids, alone or in combination with calcipotriol, a topical vitamin D analog, have proved effective in treating mild to moderate psoriasis. Topical corticosteroids, like clobetasol propionate, have a vasoconstrictor effect on the peripheral dermal vessels, and this explains skin atrophy in psoriatic patients applying topical corticosteroids regularly for long periods. However, a new topical treatment for psoriasis has been developed and patented. The new treatment is prepared as a lotion and is composed of clobetasol, papaverine hydrochloride, spironolactone, milk-peptide-complex, and propylene glycol. A 47-year-old male presented with extensive psoriasis lesions in the elbows and back. The patient had an irrelevant past medical history and was complaining mainly of severe itching in the psoriatic lesions. The patient was advised to use our newly patented lotion once daily for one week. After 7 days of local application of the new lotion, the patient was examined in the outpatient clinic. The patient reported significant improvement in the itching sensations and remission of the scaled lesions. Comparing the lesions before and after the application of the local treatment for 7 days, it was observed that the psoriasis area severity index score had improved from 20.9 to 1.8. Further studies with larger sample sizes and longer follow-up periods are required to confirm the findings of our case report.

Introduction

Psoriasis is a worldwide chronic inflammatory skin disease, affecting both genders and any age. It usually leads to significant deterioration of the quality of life of affected patients.[1]

Being a chronic relapsing disease, Psoriasis often needs long-term therapy. Mild to moderate psoriasis can be treated with topical creams of steroid and vitamin D analogs, together with phototherapy. Moderate to severe psoriasis almost always needs systemic treatment.[2]

Topical corticosteroids, alone or in combination with calcipotriol, a topical vitamin D analog, have proven to be effective in treating mild to moderate psoriasis.[3]

Clobetasol propionate is the most effective topical corticosteroids used for the treatment of psoriasis. However, it is usually accompanied by local and systemic adverse effects, like skin atrophy and hypothalamic-pituitary-adrenal axis suppression.[4]

Topical corticosteroids, like clobetasol propionate, have a vasoconstrictor effect on the peripheral dermal vessels, and this explains skin atrophy in psoriatic patients applying topical corticosteroids regularly for long periods.[3,5]

A new topical treatment for psoriasis was developed and patented by the Spanish Ministry of Industry, Trade, and Tourism (Invention patent reference number 202030824). The new treatment is prepared as a lotion and is composed of clobetasol, papaverine hydrochloride, spironolactone, milk-peptide-complex, and propylene glycol.

We report a case of moderate psoriasis treated with our new patented lotion "Psorisbye".

Case report

A 47-year-old male presented with extensive psoriasis lesions in the elbows and back. The patient had an irrelevant past medical history and was complaining mainly of severe itching in the psoriatic lesions.

On examination, multiple plaque lesions in the chin, retroauricular area, forearm and elbow, back, and popliteal regions were observed. In addition, a few erythrodermic psoriatic lesions were observed mainly in the back.

The patient was diagnosed 13 years ago and had been treated with a combination of steroid creams, moisturizers for dry skin, and calcipotriol and betamethasone cutaneous foam (Enstilar®). He had previously used clobetasol ointments and creams (Decloban® and Clovate®) without significant improvement. The patient did not accept the offer of a session of PUVA (psoralen

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Abbreviations: PASI, psoriasis area severity index.
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Fig. 1. Elbow of the patient before and after the application of "Psorisbye" with 1 week between images.

and ultraviolet light A). No immunosuppressive drugs like cyclosporine or methotrexate had been previously used by the patient.

The patient was advised to use our newly patented lotion "Psorisbye" once daily for 1 week and a total of 120ml of "Psorisbye" was used over 1 week. The patient did not receive antihistamine treatment with the lotion during that week.

On the 8th day, after 7 days of local application of "Psorisbye", the patient was examined in the outpatient clinic. The patient reported important improvement in the itching sensations and remission of the scaled lesions.

The gold standard for the assessment of psoriasis is the psoriasis area severity index (PASI). The PASI is a measure of the average redness, thickness, and scaliness of the lesions (each graded on a 0–4 scale), weighted by the area of involvement.[6]

Comparing the lesions before and after the application of the local treatment for 7 days, it was observed that the PASI score improved from 20.9 to 1.8.

Figure 1 shows the elbow of the patient before and after the application of "Psorisbye" with 1 week between the images.

Discussion

We have herein presented a case of moderate psoriasis that was successfully managed via our new lotion. This case shows an important improvement after only one week of local application of "Psorisbye".

The excellent results obtained in this case can be explained by the combined effects and equilibrated dosages of the drugs included in "Psorisbye":

- Clobetasol is a corticosteroid widely used for the treatment of this type of lesion that acts by reducing the proliferation of keratinocytes and eliminating the typical crust that occurs;
- Papaverine hydrochloride acts as a vasodilator agent producing a greater supply of blood flow to the lesion, which facilitates better penetration and access to the dermal lesion;
- Spironolactone is a diuretic that topically acts by reducing the seborrheic hyperproduction that occurs in this type of lesion;
- Milk-peptide-complex reactivates skin cells inducing the production of collagen, hyaluronic acid, and fibronectin that improves and softens the structure of the skin;
- Propylene glycol is an alcohol that acts by helping the skin to better absorb hydration by inducing suppleness;
- Excipients: hydroalcoholic solution in the appropriate proportions to obtain the best solubility and stability of the formula.

The potential interactions between the different molecules of the new topical treatment, in particular between spironolactone and papaverine hydrochloride, were carefully monitored in the studied patient. No adverse reactions or interactions were observed. A recent study evaluated the effectiveness of combining topical papaverine hydrochloride and topical spironolactone in the treatment of androgenetic alopecia (AGA). The results of the study showed that the combination of the two agents was better in AGA treatment, with no side effects or adverse interactions.[7]

A recent review reported the photosensitizing potential of 393 different drugs or drug compounds, including topical spironolactone. The level of evidence regarding the abilities of these agents to induce photosensitive reactions varied markedly.[8]

Kemp and co-workers (2019) in their histochemical and molecular biology study reported no evidence that human subjects receiving spironolactone are at particular risk of photosensitivity.[9] Moreover, no photosensitive reaction was observed after applying the new topical lotion.

Conclusions

The new topical treatment proved to bring significant improvement as indicated by the disappearance of the itching sensation and comparing the pre- and post-PASI score assessment.

Although the results of "Psorisbye" in this case are promising, further studies with larger sample sizes and longer follow-up periods are required to confirm the findings of our case report.

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None.

Conflict of interest

JIC, JRC and MFA own the new patent "Psorisbye", which is patented by the Spanish Ministry of Industry, Trade, and Tourism (Invention patent reference number 202030824). The authors have no other conflict of interests related to this publication.

Author contributions

Study design (JIC, JRC, MFA), analysis and interpretation of data (JIC, JRC), manuscript writing (JRC, MFA), collection of data (JIC, JRC), critical revision (JRC, MFA).

Ethical statement

Written informed consent was obtained from the patient for the treatment and publication of this case report and the accompanying image.

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